

AMENDMENTS TO THE CLAIMS

Claims 1-13.(cancelled)

14.(New): A fluidized-bed reactor for the oxychlorination of ethylene using a fluidized bed of catalyst granules subjected to abrasion, resulting in the creation of dust particles, said reactor comprising:

a dome part defining a dome space;

a baseplate located in said dome part of the reactor; and

a plurality of filter cartridges carried on the lower surface of said baseplate, said filter cartridges dipping into an upper region of the fluidized bed of catalyst granules;

wherein said dome space is divided above said baseplate into at least two chambers, said at least two chambers comprising a first chamber having an outlet for a main gas stream and a second chamber having an outlet for a bypass gas stream, wherein the bypass gas stream is connected to the main gas stream, and the main gas stream is connected to a quench vessel;

wherein a first group of said filter cartridges is coordinated with said first chamber and in communication with the main gas stream, and a second group of said filter cartridges is coordinated with said second chamber and in communication with the bypass gas stream; and

wherein said first group of filter cartridges have a pore size differing from a pore size of said second group of filter cartridges, said first group having a pore size configured to retain dust particles in the reactor, and said second group having a pore size configured to permit the discharge of dust particles from the reactor.

15.(New): The fluidized-bed reactor of claim 14, wherein the ratio of the number of filter cartridges in said second group to the number of filter cartridges in said first group is approximately 1:9.

16.(New): The fluidized-bed reactor of claim 14, wherein said baseplate is provided with a cleaning means using compressed gas pulses.

17.(New): The fluidized-bed reactor of claim 14, wherein the filter cartridges comprise sintered metal filter cartridges.

18.(New): A method of removing dust particles, resulting from the abrasion of catalyst granules, from a reaction gas mixture generated in the oxychlorination of ethylene in a fluidized-bed reactor, said reactor comprising a dome part divided into two separate dome spaces and a plurality of sintered metal filter cartridges communicating with each of said dome spaces, said method of comprising the steps of:

filtering out dust particles from the reaction gas mixture using a first group of the sintered metal filter cartridges, passing the filtered reaction gas mixture to a first dome space of two separate dome spaces, and removing the filtered reaction gas mixture from the first dome space via an outlet to a main gas stream, wherein the first group of sintered metal filter cartridges is configured to retain dust particles in the reactor;

filtering out dust particles from the reaction gas mixture using a second group of the sintered metal filter cartridges, passing the filtered reaction gas mixture to the second dome space, and removing the filtered reaction gas mixture from the second dome space via an outlet to a bypass gas stream, wherein the second group of sintered metal filter cartridges is configured to produce a filtered reaction gas mixture containing a predetermined content of dust particles of a size which is smaller than a predetermined particle size; and

passing the contents of the main gas stream and the bypass gas stream to a quench vessel.

19.(New): The method of claim 18, further comprising the steps of:
analyzing a catalyst sample from the reactor;
analyzing a change in heat transfer in the reactor;
analyzing a deterioration of the fluidization behavior in the reactor; and
switching on or switching off the bypass gas stream according to said analyzing steps.